

**IN THE CLAIMS:**

1. A three-part composite performance enhancing mouthguard having a u-shaped base with upstanding labial and lingual walls forming a channel, comprising:

5 (a) a non-softenable, flexible framework of posterior occlusal bite wedges in the base connected by an expansible contractible bridge in the lingual wall;

(b) two elastomeric traction pads below the wedges and are anteriorly connected by an anterior impact bumper; and

(c) a layer of heat softenable fitting material encapsulating the framework and forming the labial and lingual walls.

10 2. The three-part composite performance enhancing mouthguard of claim 1, wherein the pads are mechanically interlocked to the wedges.

3. The three-part composite performance enhancing mouthguard of claim 1, wherein the pads and bumper are not encapsulated by the fitting material.

15 4. The three-part composite performance enhancing mouthguard of claim 1, wherein the framework, the traction pads and the anterior impact bumper will not melt in boiling water.

5. The three-part composite performance enhancing mouthguard of claim 1, wherein the fitting material will soften and melt in boiling water.

20 6. The three-part composite performance enhancing mouthguard of claim 1, further comprising Cross-cantilever connectors between the wedges and the bridge.

7. The three-part composite performance enhancing mouthguard of claim 1, wherein the wedges are thicker posteriorly rather than anteriorly.

8. The three-part composite performance enhancing mouthguard of claim 1, wherein the wedges are thicker anteriorly rather than posteriorly.

9. A three-part composite performance enhancing mouthguard having a u-shaped base with upstanding labial and lingual walls forming a channel, comprising:

(a) a non-softenable, flexible framework of posterior occlusal bite wedges in the base connected to an expansible contractible bridge by Cross-cantilever connectors in the lingual wall;

(b) two elastomeric traction pads below the wedges and are anteriorly connected by an anterior impact bumper; and

(c) a layer of heat softenable fitting material encapsulating the framework and forming the labial and lingual walls.

10. The three-part composite performance enhancing mouthguard of claim 9, wherein the pads are mechanically interlocked to the wedges.

11. The three-part composite performance enhancing mouthguard of claim 9, wherein the pads and bumper are not encapsulated by the fitting material.

12. The three-part composite performance enhancing mouthguard of claim 9, wherein the framework, the traction pads and the anterior impact bumper will not melt in boiling water.

13. The three-part composite performance enhancing mouthguard of claim 9, wherein the fitting material will soften and melt in boiling water.

14. The three-part composite performance enhancing mouthguard of claim 9, further comprising Cross-cantilever connectors between the wedges and the bridge.

15. The three-part composite performance enhancing mouthguard of claim 9, wherein the wedges are thicker posteriorly rather than anteriorly.

16. The three-part composite performance enhancing mouthguard of claim 9, wherein the wedges are thicker anteriorly rather than posteriorly.

17. A three-part composite performance enhancing mouthguard having a u-shaped base with upstanding labial and lingual walls forming a channel, comprising:

5

(a) a non-softenable, flexible framework of posterior occlusal bite wedges in the base connected to an expansible contractible bridge by Cross-cantilever connectors in the lingual wall;

(b) two elastomeric traction pads mechanically interlocked to and below the wedges and are anteriorly connected by an anterior impact bumper; and

(c) a layer of heat softenable fitting material encapsulating the framework and forming the labial and lingual walls.